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CITY PARKS AND PLAYGROUNDS AS HEALTH AGENTS

By Dr. JAMES M. ANDERS

PHILADELPHIA, PA.

THE necessity for providing sufficient city parks and play spaces, including parkways and garden-streets, has been long appreciated by students of municipal sanitation and the truly enlightened part of the general public. We owe the existence of organized bodies for the purpose of promoting these agencies, all of which have been founded within the last half century, to a few leaders in the matter of community health and welfare and in civic advancement. As the result of their well-directed efforts considerable progress has been made in the important direction of providing an adequate proportion of open spaces in relation to the density and aggregate of municipal populations. Efforts to arouse public sentiment upon this vitally important question, however, should have received far greater encouragement than they did in the past.

In this connection it should be recollected that in consequence of the free immigration of inferior races our national physique has shown up to now a slow and gradual retrogression. It is high time that an intelligent, concerted effort be made with the avowed purpose of arresting this physical decadence and, more than this, of beginning a new advance. To the student of hygienic and sanitary principles the sources of bodily and moral efficiency are not obscure, and with the aid of sufficient popular support he can indicate the remedies for the cure of the existing state of things with reference to our physical deficiencies.

It will not prove difficult to show the connection of city parks and playgrounds with racial progress due to improvement in the national physique. Indeed, it is not too much to claim that a just appreciation of the beneficial effects of these breathing and play spaces of our cities would speedily lead to the acquisition of new areas and the development of land owned by cities for park and play purposes; this would mean a distinct advance in city building with reference to such questions as the number of houses to the acre, their proper grouping, and the extent of open spaces between units, as well as in street tree planting, all of which questions

affect the health and strength of the community, as will be clear hereafter.

The thirtieth annual report of the City Parks Association of Philadelphia sets forth the rôle played by the United States Government in physical demonstration of town planning on a large scale carried into execution in several localities, notably Yorkship, Portsmouth, N. H., and Wilmington, Del., during the recent war. Here was established a standard for city planning that it would have required a much longer period of time—quite a generation at least—to attain to in peace times. Attention should be directed to such government regulations as building ten to twenty feet back of the street line, fewer houses to the block and open space between adjoining houses, sixteen feet being the minimum. It is to be hoped that this example set by the government will not be lost, but will serve to inaugurate an era of decided progress in city building throughout our broad land. It is the duty of public-spirited citizens to see to it that modern town plans be adopted in connection with the future building of towns or settlements. True it is that out of appropriate town planning, as necessary sequences, grow hygienic and moral conditions which possess far-reaching influences for good. In other words, if our great American cities were models of city planning the effect would be not only greatly to increase real estate values, but also and more importantly to advance the essentials of human health and happiness. Confirmation of this statement is to be found in an article by Andrew Wright Crawford on "War Suburbs and War Cities," in which he quotes from a book by Charles Cadbury, Jr., the figures appended; they show the effect on children of the Garden Suburbs of Bournville, England, as compared with a ward in Birmingham, only twenty minutes away:

	Lbs.	Lbs.	Lbs.	Lbs.
WEIGHT	years,	years,	years,	years,
	Age 6	Age 8	Age 10	Age 12
Boys, Bournville	45.0	52.9	61.6	71.8
Boys, St. Bartholomew's Ward, Birmingham	39.0	47.8	56.1	63.2
Girls, Bournville	43.5	50.3	62.1	74.7
Girls, St. Bartholomew's Ward	39.4	45.6	53.9	65.7
HEIGHT	Inches	Inches	Inches	Inches
Boys, Bournville	44.1	48.3	51.9	54.8
Boys, St. Bartholomew's Ward	41.9	46.2	49.6	52.3
Girls, Bournville	44.2	48.6	52.1	56.0
Girls, St. Bartholomew's Ward	41.7	44.8	48.1	53.1

An important project of city planning is that of zoning, which "expresses," to quote Herbert S. Swan in the *American Architect*, "the idea of orderliness in community development." The zone plan tends to strengthen and stabilize real estate values, in short

to bring about improvement in real estate conditions and, more important still, encourages efforts to beautify private home sections by street tree planting and the creation of garden streets. Unquestionably, the excellent suggestion contained in a Bulletin of the American Civic Association to the effect that iron fences be substituted for board back fences and board side fences should be adopted. The use of wire and iron for such fencing would not obstruct air-currents as do board fences; and the former "invite flowers and backyard gardens" and "spur competition in cleanliness, neatness and attractiveness." No city should be content without a comprehensive scheme or program for its orderly development to which no single factor would contribute more in the way of beauty and physical benefit than a proper park system including adequate playgrounds.

Trees, as all know, appeal strongly to man's esthetic taste, and this is even more true of an aggregation of trees, shrubbery and flowers, such as may be seen in public squares and city parks. The fact that these vegetable forms exercise certain moral effects, especially a softening and refining influence upon human mind and character, is not open to dispute, but it is scarcely appreciated to the extent that it so richly deserves. City parks adorned with trees, foliage plants and blooming vegetation tend to delight the mind, to divert the attention and relieve ennui. Who has not felt keen pleasure at witnessing the gorgeous beauty of a Rittenhouse Square, or a Campanile in spring-time, or failed to experience the benefit they confer in ministering to his or her esthetic taste and gratifying the senses? Here it should be insisted that there is every reason why we should have displayed in our city parks true art, which should be, however, based on the delicate realities or really beautiful things of nature, with a minimum of human imagination and invention. There is opportunity in this connection for the artist who makes a clear-eyed study of the divinely settled trees, shrubs and flowers which enter into the making of our city squares in their true form.

While parks serve as a place of rest and relaxation, the presence of trees and flowering plants gives a feeling of companionship often tending to brighten and cheer the lonely hours of many who have little opportunity to enjoy life. The writer fully concurs in the view so happily expressed by the London *Medical Record*, namely, that "growing plants and flowers is valuable *delassement* for the weak and weary."

The principal object of this article, however, is to show the value of city parks, open spaces, playgrounds and the like as sources of health and strength, if rightly used. The view is generally held

that a high average physique is the most valuable asset that a municipality, state or nation can boast. Health means freedom from illness, but more than this it means the possession of a reserve force necessary to meet the emergencies of life. The recent war has shown that the American race is distinctly inferior from a physical viewpoint, the percentage of those defective in body among the young men who applied for service being as high as 39 per cent.

Experts who have made an investigation into the causes of physical disabilities of our adult population are in agreement that the principal factors are immigration of inferior races and malnutrition, the result of unsanitary conditions under which they live. Improper and inadequate food plays a leading rôle, but it is no more potent as a disabling agency than lack of pure air and sunshine due to congestion. To overcome in a measure at least the evils of overcrowding which prevails so generally in our large municipalities, a sufficient number of open squares—not less than one eighth of the total surface area, appropriately located, is to be advised and encouraged. A proper park system, such as has been projected in Kansas City, Minneapolis and elsewhere in this country should be looked upon as a conspicuous part of the sanitary arrangements of any municipality. It is obvious that a majority of our cities, especially the older ones, are greatly in need of new open spaces in order that their sanitary requirements shall be met.

There are a number of ways in which these breathing spaces or city parks with their foliage and flowers, in right proportion to the population and properly distributed, increase the healthfulness of the citizenry, apart from their esthetic influence and their happy effect in relieving congestion. In the first place they render hygienic service by producing shade, which has a cooling effect, and, moreover, sets the air in motion, giving rise to gentle currents. But the full sanitary significance of city parks, garden streets and parkways is not appreciable without a consideration of two plant functions; they are, first, transpiration, by which is meant the constant evaporation of watery vapor which takes place from their leaf surfaces, and, secondly, the power possessed by scented foliage, *e. g.*, *pine leaves*, and all flowering vegetation (as shown by the writer's experiments)¹ to convert the oxygen of the air into ozone, the natural purifying agent of the atmosphere through its oxidizing properties. That growing vegetation gives off oxygen to the surrounding air in an amount sufficient to improve the quality of this medium for breathing purposes is a fact of much sanitary significance, and one that rests upon reliable experimental evidence.

¹ "House-Plants as Sanitary Agents; Relation of Growing Vegetation to Health and Disease," pp. 133-136.

On account of their function of transpiration trees and plants generally, more particularly those having soft, thin foliage, tend to increase somewhat, and to maintain, a state of equability in the degree of the atmospheric humidity in their immediate vicinity. It is high time to abandon the view formerly dominant that an antagonism due to certain plant functions exists between the animal and vegetable kingdoms. There is a deeply rooted belief that plant respiration impairs the salubrity of the surrounding atmosphere. The results of the experiments by Pettenkofer, however, indicate conclusively that the amount of oxygen absorbed from the air and the percentage of carbon dioxide exhaled as the result of plant breathing are too small to exert any appreciable effect. It can be shown that plants, even blooming plants in a sleeping room, so far from exerting an unhealthy influence, are all the while making the air in a better condition for human lungs by diffusing moisture and generating ozone, not to speak of the affinity resulting from association with these living objects. Parks serve as a ventilating apparatus for cities, introducing, as they do, a greater abundance of purified air than is otherwise possible. Indeed the effect upon the public health and character of an adequate park system is altogether noteworthy.

Among suggested memorials to the soldier dead, nothing surpasses either in point of fitness or durability a city park or a parkway filled with its trees of remembrance. City parks if rightly kept would be flourishing monuments of living, lasting green for this and coming generations. Says the Rochester *Democrat and Chronicle* in this connection, "Not only would such a memorial be a thing of beauty and a joy for many generations by keeping fresh the memories of heroes of the world's great crisis, but it would be a source of comfort in the heart of summer to countless thousands; perhaps, it would save the lives of many in the course of its existence."

It is to be hoped that the project of planting trees along our streets and public highways generally will be vigorously furthered. To quote from *American Forestry*: "By all means let us have trees of remembrance. Let us have them abundantly and for every possible memorial. They are the true monuments, the living memorials God has provided to hallow the holiest memories of every person and of every race."

Another source of national health, strength and happiness from the standpoint taken by the hygienist as well as the political economist is children's playgrounds. Experts concur in the view that childhood is the time to begin to build up the physical reserve of a nation, which is to play so important a rôle in personal enter-

prise and success later in life as well as in municipal progress. It is during the period of public school life that the body is most in need of the strengthening and invigorating effect of suitable muscular activity. Recent investigations in a large number of schools have shown that twenty-five out of twenty-eight children are physically defective. A definite health program therefore should be made a conspicuous part of every public school curriculum, and the acquisition of health among children demands ample provision for play in the open.

Recreation is of value not only in preserving the health of individuals, but also in the treatment of physical and mental ailments. The effects of the garden city movement in Great Britain, already given in tabular form, will serve to emphasize the value to a race or nation of ample opportunity for our growing girls and boys to play out of doors. Moreover, regular and well-supervised recreation exercises are potent preventives of the great white plague and other chronic diseases. Said the International Congress on Tuberculosis recently, "Playgrounds constitute one of the most effective methods for the prevention of tuberculosis and should be put to the fore in the world-wide propaganda for the diminution of its unnecessary destruction of human life." One of the objects of playgrounds is to make them centers of hygienic instruction and to teach proper habits of living and create a love of wholesome outdoor games and sports, with a view to habitually stimulating the normal physiological processes of the body.

Obviously the largest measure of success in carrying out this health-giving measure is to be attained by a study of the needs of the individual. It is not too much to claim that sufficient play, properly supervised, would successfully overcome a large percentage of the physical defects of childhood. Obviously playgrounds must be supplied with suitable apparatus (which is not always the case), if good results are to be expected.

Here mention should be made of the fact that thoroughfares are being set aside as "play streets" in many of our large municipalities. These are to be advised and encouraged as part of a scheme for the physical development of children, but do not compare with especially built recreation or play centers as means to strengthen the nation's youth. The need of more attractive, supervised play spaces with proper equipment is only emphasized by making the most of inherent existing possibilities, as shown by the utilization of our thoroughfares as "play streets."

There would seem to be immediate urgency in the matter of a careful survey of our leading cities with reference to this question of playgrounds. It is well known that Chicago and Philadelphia

lead with respect to the number of children's playgrounds, but up to now we have not this aid to a full appreciation of the status of the subject in an immense majority of American cities. The playground problem is easily one of the most vital questions of our municipal governments to-day, and while the demand of these sources of strength and national reserve outstrip the financial resources in most cases at least, it is time that our best efforts be directed toward the solution of the problem.

It is a present-day axiom that all must work and play; hence playgrounds should also be provided for those of mature age. Says Dr. Hall aptly, "We do not stop play because we grow old, but we grow old because we stop play." We may not agree with those modern experts who contend that out of every twenty-four hours eight are to be devoted to work, eight to sleep and eight to play, but it is a recognized fact that plenty of daily play or recreation exercise is indispensably necessary to avert staleness, inefficiency and even illness. It is not denied that play can take various forms with good effect, as will be pointed out presently. After play we re-enter the fray serene, clear-eyed and confirmed.

The fundamental principle to be borne in mind in the application of recreation exercise or play in the mature adult is that the needs in this respect differ in different classes of individuals. For example, the mental worker requires diversion for the mind into other than the usual channels, but he requires above all else systematic daily muscular activity while at play. *Per contra*, those engaged in manual, laborious pursuits may get sufficient muscular exercise; they are, however, in need of mental relaxation and recreation.

During the late war Uncle Sam was actively engaged in planning playgrounds for the soldier boys during their hours of relaxation. The armistice came, and these playgrounds were not created. The need of a place and opportunity to play, not only for soldier boys, but for the entire mature population is quite as important during peace times as during war times. There is no reason why adults should not utilize the school recreation centers and children's playgrounds at certain periods of time, but they must not be allowed to crowd out the young. The social and industrial life of an urban community would be vastly improved by the building of an adequate number of playgrounds for the use of parents and of older brothers and sisters of our school children, in short for the whole adult population. While play for children of school and pre-school age is an important factor in the making of future generations of men and women, it would be profitable indeed for the general public to maintain its interest in, and im-

prove every opportunity to dedicate itself seriously to, healthful forms of recreation in the open, such as can be arranged for in appropriate open play spaces.

A campaign for the purpose of arousing public sentiment for the better protection of our national parks would be timely, since these with their natural scenic and historic features should at all hazards be preserved as great and unique public playgrounds. Unquestionably, they should be withdrawn from commercial and industrial developments, which have been permitted in recent times. It is to be hoped that the government will formulate a definite policy that would be in conformity with an effective, broad program calculated to gratify every friend of the national park system and thus protect our actual and vital public interests. The country stands in need of the development of more abundant recreation opportunities.